BOTANICAL GAZETTE.

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AN ENUMERATION OF SOME PLANTS—CHIEFLY FROM THE SEMI-TROPICAL REGIONS OF FLORIDA—WHICH ARE EITHER NEW, OR WHICH HAVE NOT HITHERTO BEEN RECORDED AS BELONGING TO THE FLORA OF THE SOUTHERN STATES. By A. W. CHAPMAN. (Continued from p. 6.)

Lobelia Floridana, n. sp.—Perennial, smooth; stem stout, erect (3–5 feet high), rarely branching; leaves chiefly radical, clustered, spreading, lanceolate, sessile, crenulate, fleshy (6–9 inches long), the upper ones small and very remote; raceme rigid, rather closely many-flowered, the stout appressed pedicels as long as the linear denticulate bracts; calyx-tube enclosing about one-half of the ovoid capsule, strongly 10-ribbed, the lanceolate glandular lobes slightly auriculate at base; corolla (7–9 lines long) of varying shades of blue, villous within and on the lower lip; anthers sparingly hispid.—Margins of ponds and swamps in the pine forests of West Florida. June and July. Near *L. paludosa*, Nutt., with which it has been confounded.

Lobelia Xalapensis, H. B. K. Annual, glabrous; stem slender (1–1½ feet) weak, mostly branched; leaves petiolate, membranaceous, ovate, unequally and mucronately dentate, the upper ones narrower and subsessile; racemes very slender, loosely many-flowered, long peduncled, the pedicels 2-3 times as long as the filiform entire bracts; tube of the calyx broadly obconical, scarcely enlarged at maturity, and enclosing the base of the ovoid capsule, which is longer than the subulate lobes; corolla small, (5 lines), blue; anthers sparsely hispid.—Hammocks near Manatee, South Florida, (Dr. Garber.) Differs from *L. Cliffortiana*, Willd., only in its superior capsule.

Lobelia Feayana, Gray. Annual, glabrous, stems filiform, mostly simple, erect or ascending (4–8 inches high); leaves few, scattered, the lower ones orbicular, crenate (3–4 lines wide), abruptly contracted into a slender petiole; the others narrower, denticulate, subsessile; racemes remotely few (4–8) flowered, the naked, at length, spreading pedicels 2–3 times as long as the linear more or less denticulate bracts, and mostly longer than the small (2 lines long) deep blue corolla; calyx-tube top-shaped, enlarging at maturity, and enclosing about one-half of the ovoid capsule, the lobes subulate; anthers smooth.—Regions of the Upper St. Johns River, Durand (1866), Dr. Garber, and of Peace Creek, Florida, Dr. Feay. There are good reasons for the belief that this is the *L. Cliffortiana*, Mx. (*L. Michauxii*, Nutt.) and that it was erroneously said to have been found "in Virginia."

Campanula Floridana, Watson. Glabrous; stem filiform, angular, simple or sparingly branched at the summit; leaves lanceolate, entire, acute, subsessile, the uppermost ones linear; peduncles terminal erect; lobes of the calyx linear-subulate, bi-dentate, spreading, longer than the spreading 5-parted blue corolla; stigmas recurved.—South Florida, (Dr. Feay). Stem 6–12 inches high Leaves 8–10 lines long. Corolla 6 lines wide.

Chrysophyllum microphyllum, DC. Branchlets, lower surface of the leaves, pedicels, and calyx densely tomentose, cinnamon-colored; leaves thick, oblong-ovate, entire, acute at each end; pedicels axillary, shorter than the petioles, clustered, the lower ones single; lobes of the calyx oval, one-half as long as the smooth white corolla.—Banks of the Caloosa River, and Miami (Dr. Garber). South Florida. November. A small tree. Leaves 2–4 inches long.

Centunculus tenellus, Duby. Glabrous; stem filiform, simple, erect; leaves roundish, or oval, mucronate, entire, narrowed at the base, subsessile; pedicels single 2–3 times longer than the flowers, shorter than the leaf; calyx 4–5-parted, the subulate lobes as long as the white corolla.—Banks of the Caloosa River, South Florida. October. Stem 4–8 inches high. Leaves 3–4 lines long. Flowers minute.

Hydranthelium Egense, Poepp. ? Floating, sparsely pilose; stem filiform, rooting at the joints, the branches opposite or dichotomous; lower leaves small (2–3 lines long), oblong, very remote, the upper and floating ones larger, crowded, spreading, obovate or roundish, crenate, 5-nerved; peduncles shorter than the leaves; calyx-lobes ovate-lanceolate; lobes of the stigma ovate, spreading; capsule compressed, slightly obcordate; seeds linear pendulous.—New Orleans (Dr. Hale). The specimens are in fruit, and in the absence of flowers I am not certain that the plant is correctly referred.

Dasystoma patula, n. sp. Stem tall (3–4 feet long), slender, curving, pubescent, sparingly and divaricately branched; lower leaves oblong-ovate, pinnately lobed or toothed, serrate, contracted into a broadly winged petiole; the upper ones nearly sessile, lance-oblong, entire; pedicels slender (1–1½ inches long,) spreading or recurved, mostly longer than the lanceolate leafy bracts; calyx-lobes lanceolate, entire, spreading, rather longer than the yellow tube; corolla tubular-campanulate, yellow; filaments at the base and anthers woolly.—Valley of the Coosa River, near Rome, Georgia. September. Parasitic on roots.

Hygrophila lacustris, Nees. Stem erect, simple, obtusely 4-angled, (2–4 feet high); leaves sessile, lanceolate, acute; cymes opposite, sessile, few-flowered; calyx smooth, flowers white.—Muddy banks of the Apalachicola River (Dr. Saurman, 1866,), and of the Mississippi (Dr. Hale, Dr. Riddell).

Hyptis spicata, Poit. Closely pubescent; stem tall, branching, obtusely 4-angular, muricate; leaves ovate, coarsely serrate, acute, long-petioled; cymes opposite, short peduncled, 3–6 flowered, forming axillary and terminal interrupted racemes; calyx-teeth spine-like, spreading; corolla small, purple.—Tampa (Herb. Durand) and streets of Jacksonville, Florida. Stem 2–4 feet high.

Hyptis spicigera, Lam. Stem erect (1–2 feet high), branching, softly pubescent, often muricate, with a villous ring at the joints; leaves ovate, acute, serrate, paler beneath, twice as long as the slender petiole; the upper ones bract-like; whorls crowded into a dense lanceolate or oblong terminal spike; calyx villous at the throat; corolla very small, white.—Fort Meyers, and Miami (Dr. Garber), South Florida.

Satureia ? (*Pycnothymus*) *rigida*, Bart. Villous; stem low (4–6 inches high), assurgent, branching; leaves small (3–4 lines long), lanceolate, rigid, the revolute margins entire; flowers crowded in an oblong terminal head; calyx much shorter than the imbricated bracts, deeply 5-cleft, one-third as long as the tube of the blue spotted corolla.—Low pine barrens, South Florida.

Hedeoma graveolens, Chapm., (Gray Bot. Contributions). Stems numerous, shrubby at base, erect (1–1½ feet high), simple or sparingly branched, pubescent; leaves ovate or roundish, cordate, the lowest short-petioled and sparingly serrate; racemes spike like, many-flowered; flowers opposite, single, rarely sessile, the bracts and 2 opposite bractlets oblong, nearly equal; calyx slightly gibbous, the teeth ciliate; corolla purple, spotted at the throat; sterile stamens with abortive anthers; seed ovoid, smooth.—Low pine barrens, West Florida. July.

Salvia occidentalis, Swartz. Stem prostrate, diffusely branched, retrorsely pubescent, the internodes swollen (2–6 feet long); leaves ovate, acute, serrate, abruptly contracted into a short petiole, sparingly hispid; racemes spicate (4–6 inches long), the whorls approximate, mostly 6-flowered, as long as the ovate acuminate bracts; calyx glandular-villous, one-half as long as the small blue corolla; the teeth obtuse; lobes of the style flat, rounded.—Miami, South Florida, (Dr. Garber).

Var. *Garberi*. Racemes more slender, the whorls more scattered (2–6-flowered); corolla larger; teeth of the calyx ending in a long awn-like point. Manatee, South Florida, (Dr. Garber). Near *S. obscura*, Benth., but differs in its rounded stigmas.

Scutellaria montana, n. sp. Perennial? tomentose pubescent; stem simple, erect (1–1½ feet high); leaves of the stem and lowest pair of floral ones ovate, or oblong-ovate, coarsely and sharply serrate, acute at both ends, or the lowest subcordate, petioled, the floral ones small, lanceolate, entire; raceme simple, few-flowered; pedicels opposite, rather longer than the calyx; corolla large (1¼–1½ inches long) blue, the ample lower lip nearly as long as the curved upper one —Dry woods and margins of fields in the mountains of Georgia.

Cordia speciosa, Willd. Rough with short appressed scattered hairs; leaves ovate or oval (2–3 inches long), petioled, mostly entire; flowers large (1 inch long), in a terminal compound corymb; calyx cylindrical-bell-shaped, 3–5-toothed, rusty-tomentose, one-half as long as the tube of the 5–8-lobed yellow corolla; stamens 5–8.—Miami (Dr. Garber,) and Jew-fish Key, South Florida. Shrub 5–8 feet high.

Heliotropium Leavenworthii, Torr. (ined?) Rough throughout with short white appressed rigid hairs; stems spreading, sparingly branched (1-2 feet long), very leafy; leaves nearly sessile, lanceolate (4-6 lines long); racemes many-flowered; bracts and calyx-lobes ovate-lanceolate; nutlets 4, hairy; flowers white.—Tampa, (Buckley in Herb. Durand), Sandy beach, Punta Roosa, South Florida. October.

Heliotropium tenellum, Torr. Annual? hoary with appressed white hairs; stem erect, slender, much branched (1 foot high); leaves linear; racemes naked or leafy, remotely few-flowered; calyx unequally 5-parted, the lobes broadly linear; nutlets roundish, pubescent above, reticulate below the middle. West Tennessee, and westward.

Convolvulus Garberi, n. sp. Stem long, shrubby, prostrate, canescent-tomentose; leaves small (6-10 lines long), oblong, obtuse, mucronate, narrowed into a short petiole; peduncles stout, single or by pairs, 1-3-flowered, longer than the leaves; calyx unequal, the 3 outer lobes obovate, twice as long as the 2 roundish inner ones; corolla (9 lines long,) white, sharply 5-lobed; capsule 6-9-valved; stigmas oblong.—Sandy coast at Cape Sable, South Florida (Dr. Garber).

Cuscuta obtusiflora, H. B. K. var. *glandulosa*, Engelm. Stems widely spreading, bright-orange; flowers short-pedicelled, single, or 3-5 in a cluster, glandular; lobes of the calyx and corolla obtuse or rounded; scales ovate, deeply fringed, incurved, slightly exserted; ovary and large capsule depressed; style short and thick.—Ponds near Apalachicola, Florida, mostly on *Polygonum*.

Solanum sisymbriifolium, Lam. Glandular-villous, armed with straight yellow prickles; stem tall (3-5 feet), branching; leaves ovate, petioled, pinnately divided near the base, deeply lobed above the middle; racemes loosely many-flowered; the lower flowers fertile; calyx hispid; corolla 5-cleft; berry globose, nearly included in the dilated calyx.—Waste places, Georgia and Florida.—Leaves 4-9 inches long. Corolla 1 inch wide, pale purple.

Withania Morrisoni, Dunal. Stem erect, branching, closely pubescent; leaves thin, obliquely cordate-oblong, or oval, acuminate, entire, or obscurely wavy, slender petioled; flowers small, 3-6 in a cluster; berry small; fruiting calyx globose; flowers yellow. (*Physalis Carpenteri*, Riddell.)—East Filiciana, Louisiana (Prof. Carpenter).

Echites biflora, Jacq. Smooth; stem very long, trailing or twining; leaves oblong-obovate and lanceolate, obtuse or acute, thick, narrowed into a short stout petiole; peduncles stout, 1-3-flowered, as long as the leaves; lobes of the calyx oblong, acute, one-half as long as the pedicel; tube of the large (2-3 inches long) funnel-shaped white corolla, 3-4 times as long as the calyx; follicle fusiform, 3-4 inches long; seeds linear, plumose.—Muddy Islets of the Caloosa River, South Florida. October.

Acerates Feayi, Chapm. (ined.) Leaves almost filiform, long, spreading; umbels terminal and sub-terminal, short-peduncled, few-flowered; corolla white, rather large, spreading; leaves of the crown oblong, entire, involute-concave, spreading, as long as the anthers, with a semi-oval, entire crest within (Gray).—Tampa, Florida, (Dr. Feay). This, in conformity with the arrangement of these plants in the "Southern Flora," would be an *Acerates*. Dr. Gray (Proc. Am. Acad. of Arts and Sciences V. xii. p. 72), by amending the characters of *Asclepias* so as to include these cristate species, appropriately refers it to that genus.

Gonolobus flavidulus (*G. hirsutus*, S. Flora). Stem downy and sparsely hairy; leaves ovate, cordate—the sinus open—acute, sparingly pubescent above, downy beneath (3-5 inches long); umbels mostly shorter than the petioles, simple or compound, the pedicels about the length of the flowers, which are ovate and obtuse in the bud; lobes of the corolla oblong, obtuse, finely reticulate, yellowish, smooth within, twice as long as the linear pubescent calyx-lobes; crown 5-crenate, incurved, with 2 erect minute subulate teeth in the sinuses; follicle muricate.—Light clay soil, Gadsden county, Florida. June. The *G. macrophyllus*, Ell., should, I think, be referred to this species.

Gonolobus Baldwinianus, Sweet. Stem and leaves of the preceding; peduncles mostly longer than the petioles; umbels simple or compound, the pedicels mostly longer than the flowers which are oblong-ovate in the bud; lobes of the corolla somewhat spatulate, white, three times as long as the calyx; crown 5-crenate and with a pair of longer subulate lobes in the sinuses.—Calcareous soil, Chattahoochee, Florida, and westward. May and June.

Euphorbia tetrapora, Engelm. Smooth; stem erect, umbellately branched; leaves cuneate, obtuse or emarginate, the uppermost ones roundish, truncate at the base; glands of the involucre 2-horned; capsule smooth; inner face of the seed 4 pitted, the outer face smoothish.—Georgia (Boykin ex Engelmann).

Euphorbia ammannioides, H. B. K. Smooth throughout; stems filiform, very numerous, long (2-3 feet), prostrate, alternately much branched; leaves opposite, oblong, (3-5 lines long), entire, rounded and mucronate at the apex, short petioled; stipules 2-parted; flowers single, terminal, and in the forks of the branches; glands margined with white; capsule obtusely triangular; seeds ovate, obscurely triangular, pale, smooth and even.—Roberts' Key, in Caximbas Bay, South Florida.

Papaya vulgaris, DC. Stem simple (6-15 feet high), leaves roundish, cordate, long-petioled, mostly seven-parted, the divisions broadly sinuate; flowers yellow; the sterile ones salver-shaped, in panicled clusters; the fertile ones larger, bell-shaped, single, or 2-3 together, the long lobes linear-lanceolate; style short; stigmas 5, spreading, fruit pulpy.—South Florida.

Thrinax parviflora, Swartz. Stem smoothish, tall (10-30 feet); leaves fan-shaped, soon smooth; the numerous linear-lanceolate divisions tapering to the slender deeply cleft apex, and united about one-third their length, ligule triangular, acute; spadix smooth paniculate, scarcely shorter than the leaves; flowers very small; drupe white, globose, of the size of a grain of Allspice.—Keys along the Florida Reefs, extending up the west coast as far as Cape Romano.

Thrinax Garberi, n. sp. Stem very short; leaves fan-shaped, on slender roughish petioles, smooth, parted nearly to the base into several strap-shaped slightly cleft divisions; ligule short, rounded; spadix very small (6-8 inches high), spathes (about 4) tubular, dilated upward, oblique, somewhat woolly; flowers very small, divisions of the perianth minute, subulate; stamens 8-10, drupe (immature) pear-shaped. (*Sabal minima*, Nutt. ?).—Rocky pine woods near Miami, South Florida, (Dr. Garber.)

Several Epiphytic Orchids and Tillandsias have been detected in South Florida by Dr. Garber and myself, which are omitted in this enumeration.

[*To be Concluded.*]

POA LEMMONI, *n. sp.*—Among some grasses received from Mr. J. G. Lemmon, Sierra county, California, two years ago, was one which I have since distributed as *Poa Lemmoni*. Its characters may be given as follows:

POA LEMMONI.—Whole plant light green and somewhat glaucous, culms wiry, erect, 1 to 1½ feet high; radical leaves setaceous, involute, pungently pointed, slightly scabrous on the margin, 2 to 6 inches long; culm smooth, with about 3 leaves whose sheaths are longer than the internodes, the upper one sheathing the base of the panicle, the blades 2 to 3 inches long and setaceous; panicle contracted, one-third the length of the culm, or more, rays about in fives, unequal, from 1 to 4 inches long, and the longer ones twice as long as the internodes of the panicle, appressed, slightly scabrous; spikelets linear, on rather slender pedicels, 5 to 6 lines long, 7 to 9-flowered, the glumes small, the upper one two-thirds, the lower one about half the length of the lower palet, lanceolate and acutish; the lower palet narrow, linear, about 1 line in length, convex on the back and slightly compressed near the apex; very finely pubescent or minutely scabrous, obtuse or sometimes slightly acute, scarious at the tip, purplish on the margins.

This grass belongs to the genus *Schlerochloa*, P. DE B., which Dr. Gray places under *Glyceria*, but which Mr. Bentham includes in *Poa*. It differs from *Poa* chiefly in the linear spikelets and small unequal glumes.

The genus or section *Heleochloa*, FRIES., is essentially the same. The section *Atropis*, TRIN., as given in *Mem. Imp. Acad. Sciences, St. Petersburg*, 1836, "spikelets linear, lower glume less than half as long as the florets," would seem also to come under the same sub-division. But the California grass distributed by Bolander and others as *Atropis Californica*, MUNRO, has nearly equal glumes about as long as the florets, and the spikelets are much larger and broader.—GEO. VASEY, *Washington, December*, 8, 1877.

ADDENDA.—During the past season several new plants have been added to the Flora of Jefferson Co. The re-discovery of *Spermacoce glabra* has already been recorded in these pages. Among the additions are three very desirable species and we notice them briefly. *Martynia proboscidea*, Glox., was found this year well established on the river bank at Madison. The seeds were probably drifted down and deposited at the overflow in August, 1876. If the plant reappears next season we hope to make some observations on its insectivorous (?) habits.

Iris cristata, Ait., has established itself on the rocky banks of a creek near Hanover. No plants were found in bloom but the species is undoubted.

Ophioglossum vulgatum, L.—Four specimens in good fruit were secured this spring and numbers of sterile fronds were seen near the same locality.—B.

NELUMBIUM LUTEUM IN MICHIGAN.—In volume one, number four, Mr. Frank H. Tuthill, of Kalamazoo, says, "this plant is found 14 miles south of this place (Kalamazoo), and this, I believe, is its only station in our State where it flowers. It grows in a mill-pond, and hence must have been introduced after the country was settled." Two or three years ago, I received flowers and leaves which were said to have been taken from a natural pond called Indian Lake, situated some twelve miles south-east of Kalamazoo, or about eight miles south of Galesburgh. I have lately received a card from Mr. H. Dale Adams of the latter place, who speaks of the locality called Indian Lake. He also speaks of the mill-pond. Mrs. Adams once lived near this mill-pond, made in 1829. She thinks there was then a natural pond (now a part of the mill-pond), in which grew the *Nelumbium*. This plant is now found on one or more islands in the Detroit river, where an effort was made a few years ago to introduce it, though in some parts of the river it may be indigenous. It is quite abundant at Monroe, where it was known to the Indians a long time ago. It is plenty in the Maumee river in Toledo, Ohio.—W. J. BEAL, *Agricul. College, Lansing, Mich.*

Mr. L. M. Underwood sends some fine specimens of *Scolopendrum vulgare*, collected at Green Pond, Onondaga Co., N. Y.

In a letter from Mr. Thos. Meehan he mentions that *Acanthospermum xanthoides* is making itself at home in many parts of the Southern States.

Mr. N. Coleman writes as follows: "I have found *Eupatorium perfoliatum* with pink florets this fall, and one plant of *Plantago lanceolata* without stamens. But the most singular find of the season has been *Plantago lanceolata* with branching spikes. I came across several that had two or three or more spikes at base of the main spike. From the form of the latter I could not see any possible insect agency in the case."

YUCCA DRACONIS.—One of the most interesting exhibits at our late Agricultural Fair were three growing plants of the shrubby, palm-like *Yucca Draconis*, L., and samples of a very superior quality of paper, both brown and white, which is being manufactured from the fibres of this plant in two localities of this State, viz: at Soledad Mills, Los Angelos county, and at the Lick Mills, Santa Clara county. Sections of the caudex, which often attains a height of 20 feet, with its pulp in every stage of the process of paper-making, bleached and unbleached for white and colored paper, for the purposes of printing, wrapping, etc., were displayed.

The Yucca forms an abundant native growth of the desert portions of Southern California, Arizona and Northern Mexico. The Southern Pacific railroad which passes through many miles of these forests, affords ample facilities for its transportation and utilization.—M. E. P. A., *San Jose, Oct. 15th*, 1877.

RECENT PUBLICATIONS.—*American Journal of Science and Arts*, December.—The herbarium of the late Arthur Schott is offered for sale. It is said to contain 7,000 species and to be rich in plants of the United States and Mexican Boundary, of Mexico and of Central America. Application to be made to H. Schott, Georgetown, D. C. An extract is given from Nature of Oct. 25, being an article by Sir Joseph Hooker upon his recent trip to the Rocky Mountains in company with Dr. Gray. We have space to give, in the words of Dr. Hooker, only the result of the expedition: "The net result of our joint investigation and of Dr. Gray's previous intimate knowledge of the elements of the American flora is, that the vegetation of the middle latitudes of the continent resolves itself into three principal meridional floras, incomparably more diverse than those presented by any similar meridians in the old world, being, in fact, as far as the trees, shrubs, and many genera of herbaceous plants are concerned, absolutely distinct. These are the two humid and the dry intermediate regions. Each of these again is sub-divisible into three, as follows:

(A.) The Atlantic slope plus Mississippi region, sub-divisible in (1) an Atlantic; (2) a Mississippi valley; and (3) an interposed mountain region with a temperate and sub-alpine flora.

(B.) The Pacific slope, sub-divisible into (1) a very humid cool forest-clad coast range; (2) the great hot drier Californian Valley, formed by the San Joaquin River flowing to the north, and the Sacramento River flowing to the south, both into the Bay of San Francisco; and (3) the Sierra Nevada flora, temperate, sub-alpine, and alpine.

(C.) The Rocky Mountain region (in its widest sense, extending from the Mississippi beyond its forest region to the Sierra Nevada), sub-divisible into (1) a prairie flora; (2) a desert or saline flora; (3) a Rocky Mountain proper flora, temperate, sub-alpine, and alpine."

The Oaks of the United States. (Continuation.) By Dr. Geo. Engelmann. In this paper Dr. Engelmann first makes some corrections and additions to his former paper on this genus, published over a year ago.

The following is believed to be a more correct enumeration and more natural arrangement of our oaks:

I. LEPIDOBALANUS, Endl.

A. LEUCOBALANUS.

*Maturatio annua.

†Folia decidua.

Q. alba, lobata (fruticosa), Garryana, stellata, macrocarpa, lyrata, bicolor (Michauxii), Prinus, Muhlenbergii (prinoides), Douglasii, undulata (pungens.).

††Folia persistentia.

Q. oblongifolia, dumosa, reticulata, virens.

**Maturatio biennis.

Q. chrysolepis (vaccinifolia, Palmeri), tomentella.

B. MELANOBALANUS.

*Maturatio annua, folia persistentia.

Q. Emoryi, agrifolia, pumila, hypoleuca.

**Maturatio biennis.

†Folia decidua.

Q. rubra, coccinea (tinctoria,) Sonomensis, falcata, Catesbæi, ilicifolia, palustris, Georgiana, aquatica, laurifolia, nigra, cinerea, imbricaria, Phellos.

††Folia persistentia.

Q. Wislizeni, myrtifolia.

II. ANDROGYNE, A. DC.

Q. densiflora.

The names in parentheses designate sub-species.

The American Junipers of the section Sabina, by Dr. Geo. Engelmann.—The author treats the subject in the following order: the bark, the wood, the leaves, the flowers, the seeds, and the geographical distribution. The nine American species are then arranged in the following order:

I. SABINÆ, with larger, reddish-glaucous, fibrous, dry, sweetish berries.

A. Seeds single or few; leaves fringed or denticulate.

a. Cotyledons 4–6.

(1.) *J. Californica.*

b. Cotyledons 2.

(2.) *J. Mexicana.*

B. Seeds numerous, 4-12; leaves slightly denticulate.

(3.) *J. pachyphlœa*, and (4.) *J. flaccida*.

II. SABINÆ, with smaller, bluish-black (rarely brown) pulpy berries, of resinous taste.

A. Leaves ciliate or denticulate.

(5.) *J. occidentalis*, (6.) *J. conjungens*, and (7.) *J. tetragona.*

B. Leaves entire or nearly so.

(7.) *J. Sabina*, (8.) *J. Virginiana*, and (9.) *J. Bermudiana.*

The Flowering of Agave Shawii, by Dr. Geo. Engelmann.

Ferns of North America, by Prof. Daniel C. Eaton.—Although late it is not too late to notice Part I. of this magnificent work. The plates and press work are as fine as can be made even in these days of superb printing. Four species are illustrated and fully described. They are *Lygodium palmatum*, Swartz., *Cheilanthes vestita*, Swartz, *C. Cooperæ*, D. C. Eaton, and *Asplenium serratum*, Linn. There is also a synopsis of the species of *Cheilanthes* known to occur in the United States. All botanists who are at all able will be amply repaid by subscribing for this work. The Parts are very cheap at $1.00 each. Address the Naturalists' Agency, Salem, Mass.

Notes on Botrychium simplex, Hitch., by Geo. E. Davenport.—This valuable paper is the result of two years careful preparation. It is printed on heavy plate paper, is 10x12 inches in size and contains two plates by J. H. Emerton. These plates give nearly fifty figures of specimens of *B. simplex* and other species which have been confused with it. Only a very small private edition has been issued, and those desiring to obtain a copy of this work can do so by remitting one dollar to John Robinson, Salem, Mass.

Correspondance Botanique; Liste des Jardins, des Chaires et des Musees Botaniques du Monds, 5th edition, September, 1877.—This is quite a bulky pamphlet and contains the names and addresses of over 1,200 botanists from all quarters of the globe. It is published by Prof. Ed. Morren of Liege, Belgium. The sixth edition will be issued as soon as possible in 1878

J. HERMAN WIBBE, Ph. D., is willing to exchange the rare *Erythræa Centaurium*, or the Spruce Parasite, *Arceuthobium pusillum*, Peck, for any other species peculiar to the West or South. Address him at Oswego, N. Y.

H. EGGERT has issued a new prospectus for 1878, in which he has many good plants. He sells them at the rate of $8.50 for 150 species. Address him at 918 Wash St., St. Louis, Mo.

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